



The Power of Global Collaboration
Defense | Government | Industry | Academia

The Next Generation of SCORM Phase I – Experience API

iFest 2012

Jonathan Poltrack, ADL Tech Team, Subcontractor for Problem Solutions LLC

**Provide access to
the highest
quality education
and training,
tailored to
individual needs,
delivered cost
effectively,
anywhere and
anytime.**



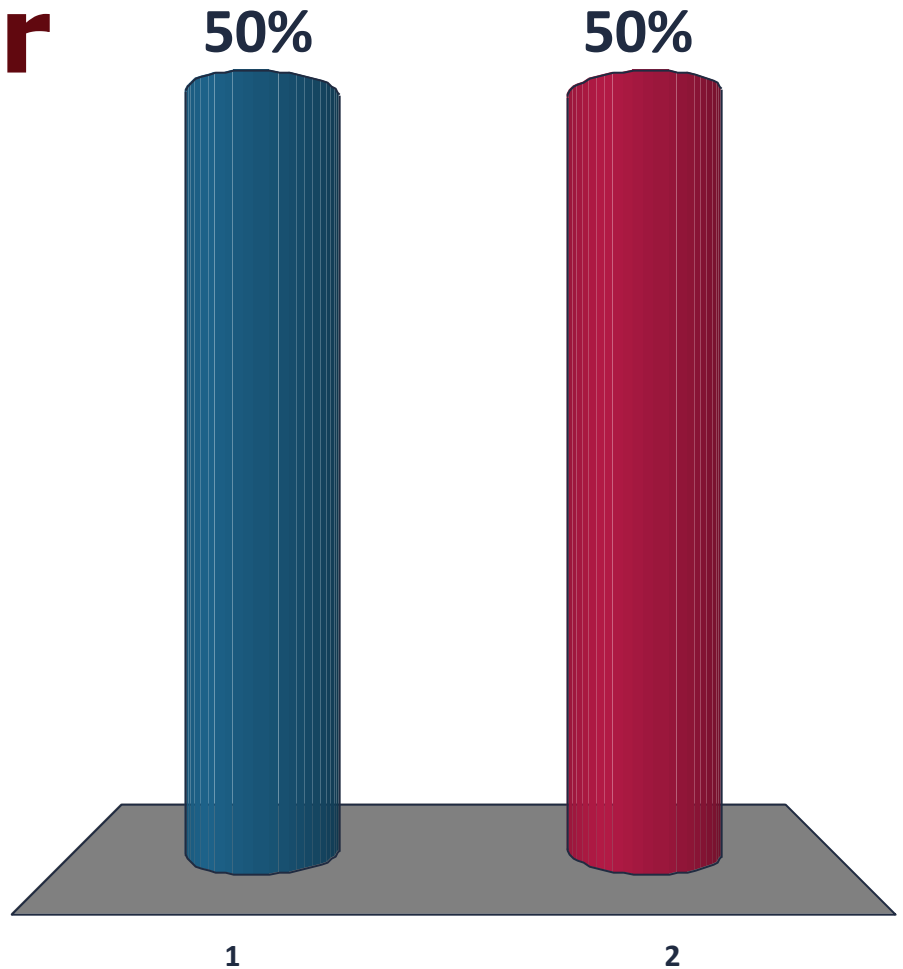


SCORM enables an interoperable
e-learning environment that has become the
de facto global learning standard

Do you have experience or are you familiar with SCORM?

1. Yes

2. No

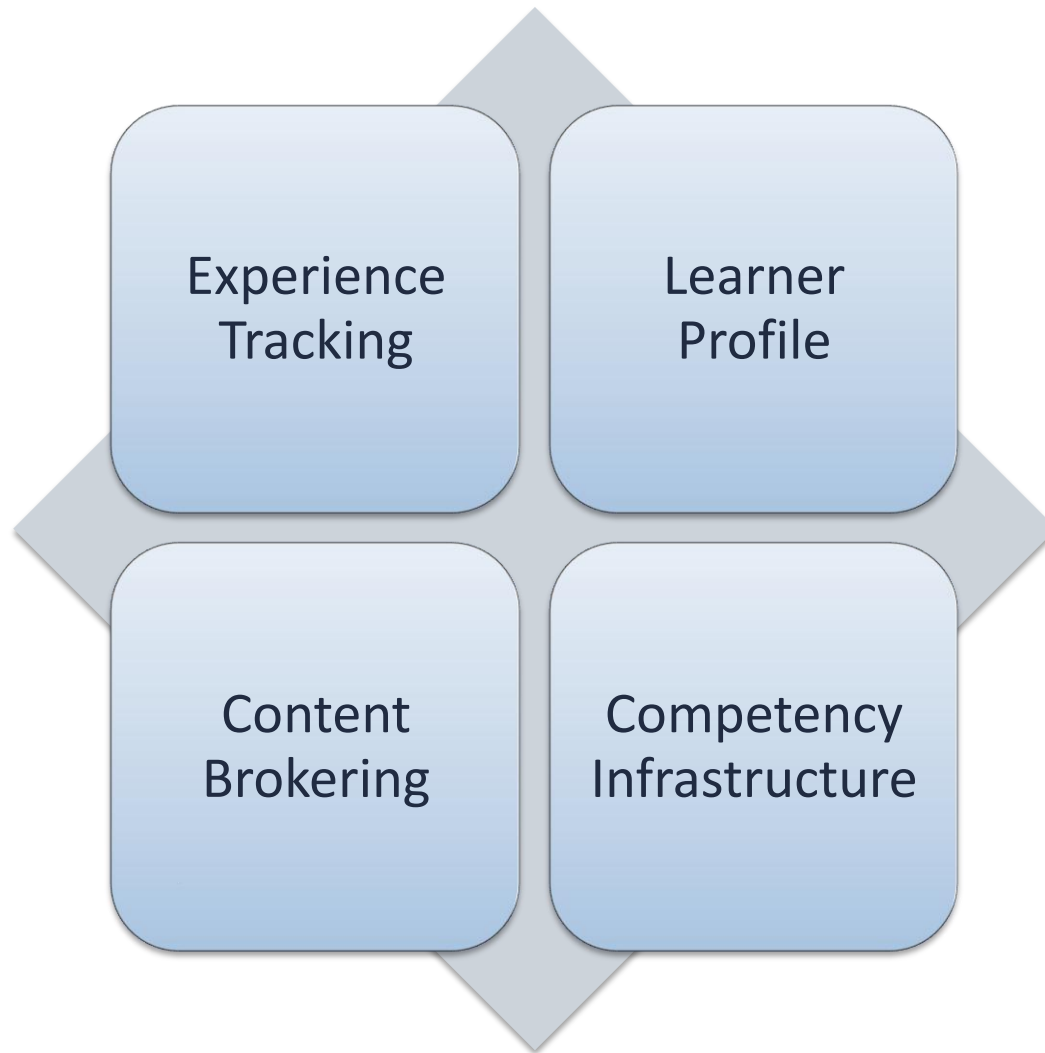


SCORM CAN'T_s

- Launch and track native mobile apps
- Track informal or self-guided learning
- Allow me to get my data
- Manage group learning
- Launch and track full-scale simulators
- Track data beyond scores, completion, success...
- Assess after learning
- Manage learning not 'known' by the LMS
- Let me 'own' my data
- Etc.

<http://www.adlnet.gov/adl-summarizes-next-generation-scorm-requirements>

Training & Learning Architecture (TLA)



Experience Tracking

PROJECTS:

- SCORM Run-Time Environment
- Project Tin Can
- TLA Experience API

REQUIREMENTS:

- Track diverse learning experiences
- Access learning data for value-added services



DIGITAL GOVERNMENT:
**BUILDING A 21ST
CENTURY PLATFORM
TO BETTER SERVE THE
AMERICAN PEOPLE**

MAY 23, 2012

"I want us to ask ourselves every day, how are we using technology to make a real difference in people's lives."

—President Barack Obama

The Speed of Digital Information

When a 5.9 earthquake hit near Richmond, Virginia on August 23rd, 2011, residents in New York City read about the quake on Twitter feeds 30 seconds before they experienced the quake themselves.

To keep up with the pace of change in technology, we need to securely architect our systems for interoperability and openness from conception. We need to have common standards and more rapidly share the lessons learned by early adopters .

Introduction

want us to ask ourselves every day, how are using technology to make a real difference in people's lives." —President Barack Obama

The Speed of Digital Information

When a 5.9 earthquake hit near Richmond, Virginia on August 23rd, 2011, the Twitter feeds 30 seconds after the quake.

New expectations require the Federal Government to be ready to deliver and receive digital *information and services* anytime, anywhere and on any device. It must do so safely, securely, and with fewer resources. To build for the future, the Federal Government needs a Digital Strategy that embraces the opportunity to innovate more with less...

Early mobile adopters in government—like the early web adopters—have led the way in the suit of innovation. Some have created products that leverage the power of mobile devices. Others have launched programs and strategies and brought together different agencies. In some cases, however, the work is being done in isolation.

Building for the future requires us to think beyond programmatic line items. To keep up with the pace of change in technology, we need to securely architect our systems for interoperability and openness from conception. We need to have common standards and more rapidly share the lessons learned by early adopters. We need to produce better content and data, and preserve it in a program and device-agnostic⁴ way. We need to adopt a coordinated approach to information and security in a digital age.

1. Source for "The Speed of Digital Information": <http://mashable.com/2011/08/23/virginia-earthquake-tweets/>; "The Rapidly Changing Mobile Landscape": <http://hugin.info/10617R/1561267/483/getdoc.jsp?containerId=prU523028711>, <http://pewinternet.org/Reports/2012/Smartphones.aspx>, <http://tech.fortune.cnn.com/2011/02/07/idc-smartphone-shipment-number/>.

2. Digital information is information that the government provides digitally. Information A-130, is any communication or representation of knowledge such as facts, data, or including textual, numerical, graphic, cartographic, narrative, or audiovisual forms. [omb/circulars_a130_a130trans4](http://www.gpo.gov/digital/omb/circulars_a130_a130trans4) for more information.

3. Digital services include the delivery of digital information (i.e. data or content) and the use of digital tools (i.e. forms, benefits applications) across a variety of platforms, devices and delivery methods (i.e. web, mobile, social media).

4. Device-agnostic means a service is developed to work regardless of the user's device (i.e. desktop computer, laptop, smartphone, media tablet or e-reader).

Strategy Principles

To drive this transformation, the strategy is built upon four overarching principles:

- An **"Information-Centric"** approach—Moves us from managing "documents" to managing discrete pieces of open data and content¹⁷ which can be tagged, shared, secured, mashed up and presented in the way that is most useful for the consumer of that information.
- A **"Shared Platform"** approach—Helps us work together, both within and across agencies, to reduce costs, streamline development, apply consistent standards, and ensure consistency in how we create and deliver information.
- A **"Customer-Centric"** approach—Influences how we create, manage, and present data through websites, mobile applications, raw data sets, and other modes of delivery, and allows customers to shape, share and consume information, whenever and however they want it.
- A platform of **"Security and Privacy"**—Ensures this innovation happens in a way that ensures the safe and secure delivery and use of digital services to protect information and privacy.

Information-Centric

The Federal Government must fundamentally shift how it thinks about digital information. Rather than thinking primarily about the final presentation—publishing web pages, mobile applications or brochures—an information-centric approach focuses on ensuring our data and content are accurate, available, and secure. We need to treat all content as data¹⁸—turning any unstructured content into structured data—then ensure all structured data are associated with valid metadata.¹⁹ Providing this information through web APIs helps us architect for interoperability and openness, and makes data assets freely available for use within agencies, between agencies, in the private sector, or by citizens. This approach also supports device-agnostic security and privacy controls, as attributes can be applied directly to the data and monitored through metadata, enabling agencies to focus on securing the data and not the device.

17. Open data and content for the purposes of this document refers to digital information that is structured and exposed in a way that makes it accessible for meaningful use beyond its system of origin, be that internal to the government or external to the public. This builds upon the definition of "openness" in OMB Memorandum M-10-06 (Open Government Directive), which specifically addresses the release of information to the public: "Agencies shall respect the presumption of openness by publishing information online...To the extent practicable and subject to valid restrictions, agencies should publish information online in an open format that can be retrieved, downloaded, indexed, and searched by commonly used web search applications. An open format is one that is platform independent, machine readable, and made available to the public without restrictions that would impede the re-use of that information." See <http://www.whitehouse.gov/open/documents/open-government-directive> for more information.

18. To treat content as data and turn unstructured content into structured data, web-based documents must be created as pieces of structured information. For example, a fact sheet may be broken into the following component data pieces: the title, body text, images, and related links.

19. Metadata are information used to describe certain attributes of a piece of digital information, such as page title, author, date updated, and other classifications. Consistent quality metadata tagging can improve search results and also be used to structure content so that it can be more widely disseminated.

Strategy Principles
 "Information Centric"
 "Shared Platform"
 "Customer Centric"
 "Security and Privacy"

Fueling the App Economy

The City of San Francisco releases its raw public transportation data on train routes, schedules, and to-the-minute location updates directly to the public through web services. This has enabled citizen developers to write over 10 different mobile applications to help the public navigate San Francisco's public transit systems—more services than the city could provide if it focused on presentation development rather than opening the data publicly through web services.

Project Tin Can BAA

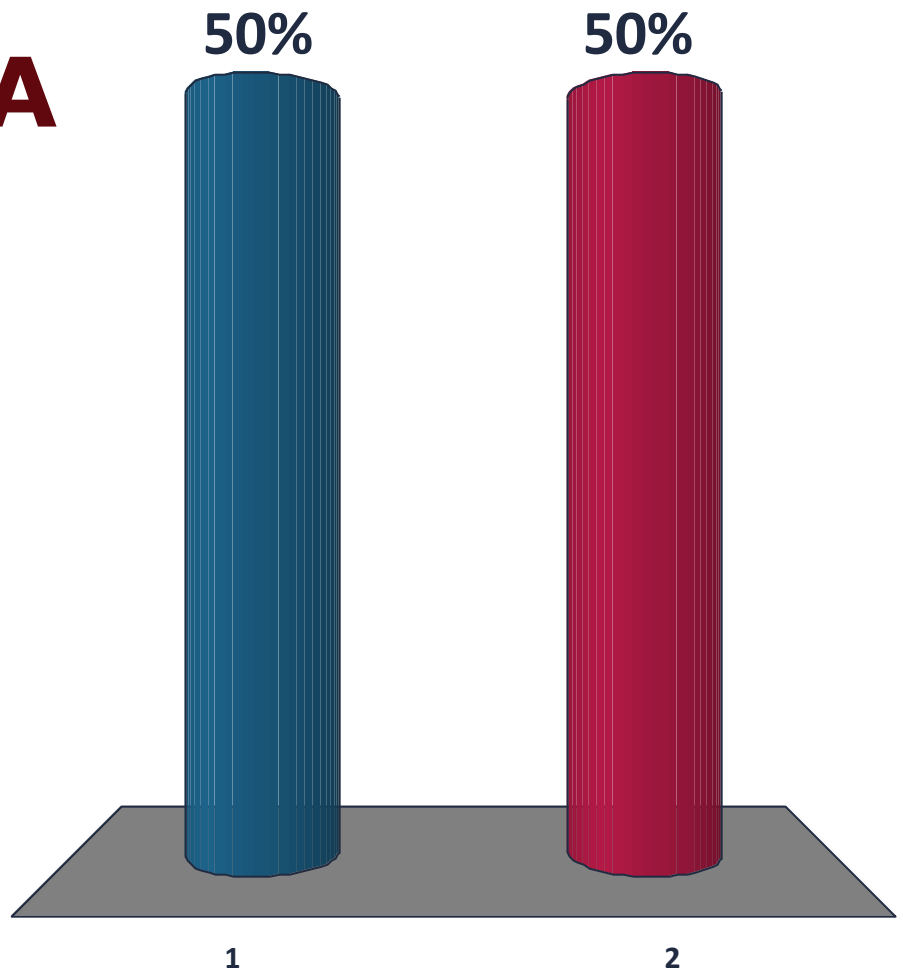
- **"I Did This" Activity Stream Model**
- **API Specification 0.9 Available**
- **Mobile Demonstrations/Use Case-Focused**
- **Open Programming Libraries**
- **ADL Learning Record Store (LRS)**
- **Get Involved!**

<http://tincan.adlnet.gov>

Are you involved with or have you heard of Project Tin Can or the TLA Experience API?

1. Yes

2. No



Learning Management System (LMS)

User Management

Learning Records

Scheduling

Course Management

Statistics

Grade Book

Run-Time

Repository

Search

Player

Sequencing

Delivery

Preferences

Reports

Assessment

Learning Record Store (LRS)

Learning Records

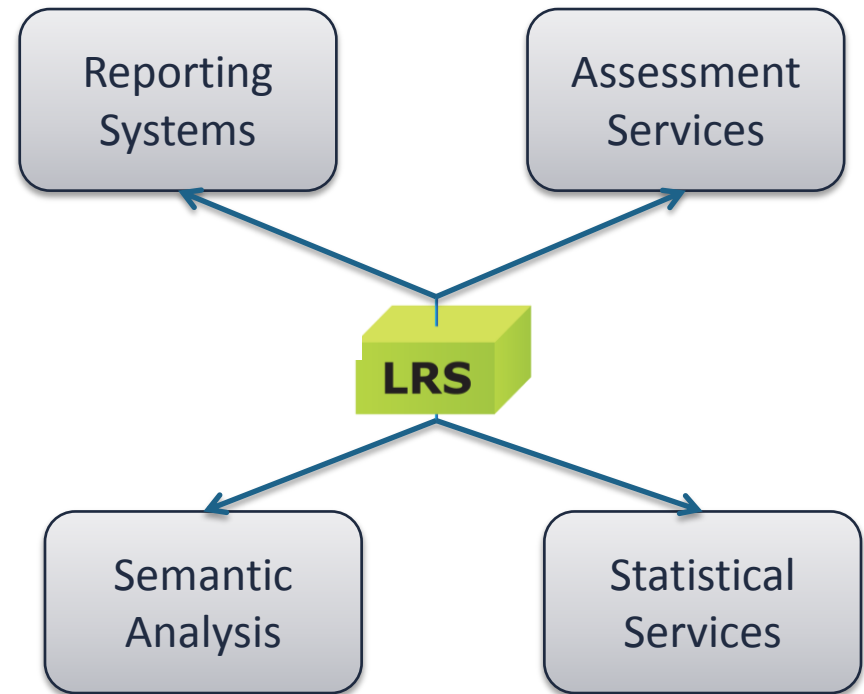
Share It.



Share It.



Act On It.



Share It. Act On It. What Is It?

 **The Humane Society of the United States** shared a link via
The Humane Society of the United States - Pennsylvania.
June 15 ❄️

Reward offered in PA! Please share the link below with anyone who may have information about this case.



The Humane Society of the United States Offers Reward in Coatesville, Pa., Dog's Death
www.humanesociety.org

The Humane Society of the United States is offering a reward of up to \$2,500 for

Like · Comment · Share  84

 76 people like this.

 View all 24 comments

Write a comment...

 **The Humane Society of the United States** shared a link.
June 15 🌐

HBO Documentary Films is kicking off their 2012 Documentary Summer Series on June 18th with "One Nation Under Dog: Stories of Fear, Loss & Betrayal". To celebrate, we want to hear your stories -- Have you ever saved a dog's life? Has a dog ever saved yours? Post them to our wall!



Sneak Peek
video.humanesociety.org

HBO's "One Nation Under Dog: Stories of Fear, Loss & Betrayal" is an eye-opening look at our relationship with dogs and how far we need to go to treat all dogs humanely, airing Mon., June

Like · Comment · Share  136

 1,036 people like this.

 View all 74 comments

Write a comment...

“Core” Data



Ashley Stroba listened to Blue Moon Rising on Spotify.



- ▶ Stone By Stone Blue Moon Rising
- ▶ Marie Blue Moon Rising
- ▶ The Dust Bowl Blue Moon Rising
- ▶ Blue Moon Rising Blue Moon Rising
- ▶ I Will Come Back Again Blue Moon Rising

Like · Comment · Share · Listen · Sunday at 11:54pm



Mary Flaherty Rogers listened to Grateful Dead Download Series Vol. 11: Pine Knob Music Theater, Clarkston, MI, 6/20/91 by Grateful Dead on Spotify.



- ▶ Johnny B. Goode [Live at Pine Knob Music Theater, Clarkston... Grateful Dead
- ▶ The Other One [Live at Pine Knob Music Theater, Clarkston, M... Grateful Dead
- ▶ Stella Blue [Live at Pine Knob Music Theater, Clarkston, MI,... Grateful Dead
- ▶ Brokendown Palace [Live at Pine Knob Music Theater, Clarkst... Grateful Dead

[Show 20 More Songs](#)

Like · Comment · Share · Listen · Yesterday at 12:38pm

Rate Recently Used Apps



Flipboard



Learnist



Rapporative



Renee Mazurek listened to Lucinda Williams on Spotify.



- ▶ Buttercup Lucinda Williams
- ▶ Blessed Lucinda Williams
- ▶ Right In Time Lucinda Williams

Like · Comment · Share · Listen · 23 hours ago



Terry Tomei listened to the Vibesquad Radio station on iHeartRadio.

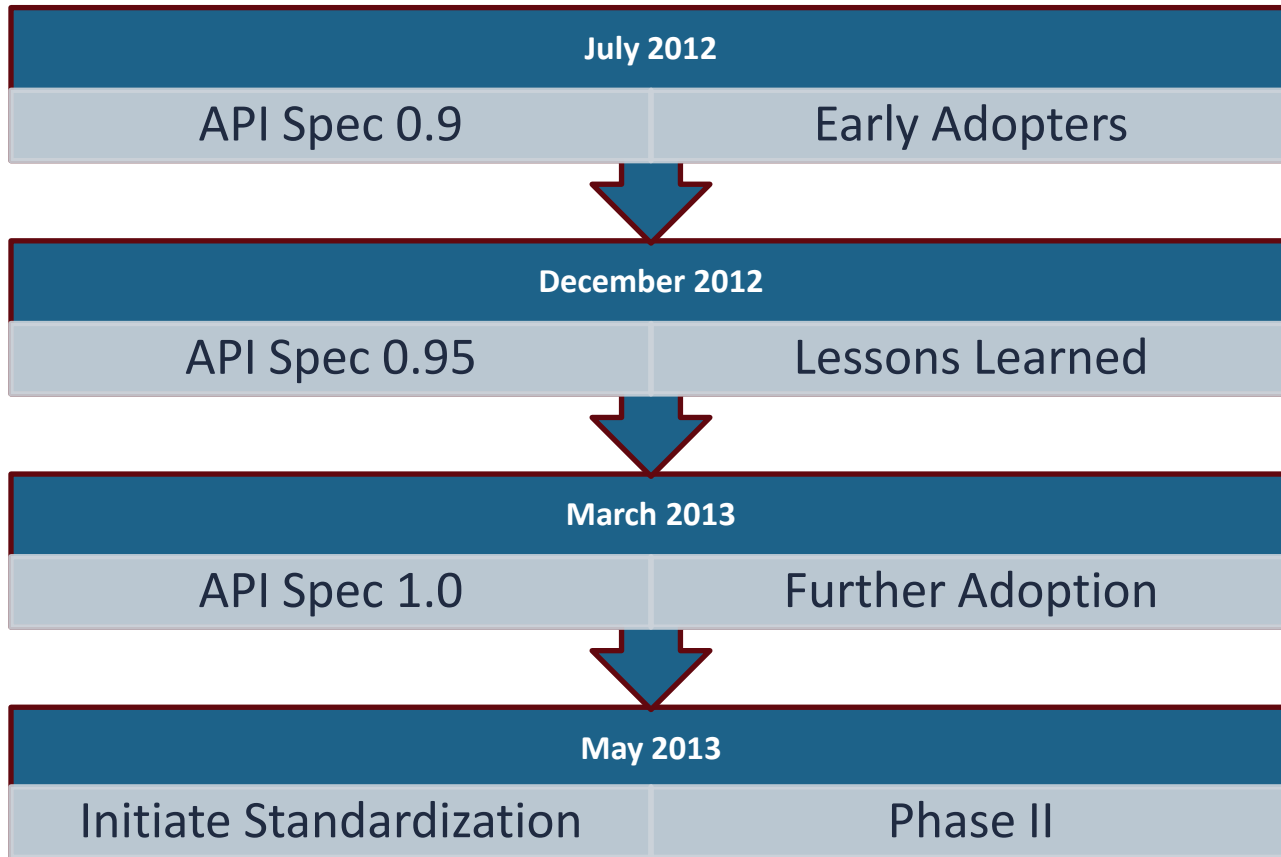


- Size Matters Subvert
- Tauhid Boxcutter
- Cut Copy Paste ill.gates
- Warrior Concerto The Glitch Mob
- [Show 5 More Songs](#)

Like · Comment · Share · Listen · 21 hours ago

"Extended" Data

Experience API Timeline



Early Implementers

articulate®

[SaLTBOX]
SALES and LEARNING TOOLBOX

OpenSesame

edCetra

ROLEPLAY™
Learning Interaction

serco

Tappestry

dominKnow
connect the thoughts

Litmos
LOVE YOUR LMS

e
ellogic
LEARNING

EX
AM
BUILDER

RISC

float
mobile learning

MAP
DECK

hand
YOUR BLUEPRINT FOR SUCCESS

ONPOINT
DIGITAL
LMS/LCMS and Mobile Learning Solutions

Questionmark®

Problem
Solutions

Rapid Intake® Work as One®
Cloud-based Collaborative Course Authoring

RUSTICI
SOFTWARE

MediaTechnics
Innovative technology for publishing and education



Resources



SCORM

<http://www.adlnet.gov/capabilities/scorm>

TLA - Next Gen SCORM

<http://www.adlnet.gov/capabilities/next-generation-scorm>

TLA Experience API - Tin Can API & Public Groups

<http://tincan.adlnet.gov>

TLA Experience API - Tin Can API Wiki

<http://tincanapi.wikispaces.com/>

ADL Github

<https://github.com/adlnet>

ADL Tech Team Blogs

http://www.adlnet.gov/?s=+&tag=next-generation-scorm&category_name=blog-post

Whitehouse Digital Government Document

<http://www.whitehouse.gov/sites/default/files/omb/egov/digital-government/digital-government.html#top>

Questions?

A close-up photograph of a person's hand holding a white rectangular card. The hand is positioned on the left side of the frame, with the thumb and index finger gripping the card. The card is held horizontally and displays contact information in a clean, sans-serif font. The background is a plain, light color.

Jonathan Poltrack

jonathan.poltrack.ctr@adlnet.gov

Twitter: @adjono